

## An Apparent Interspecific F<sub>1</sub> Hybrid *Speyeria* (Nymphalidae)

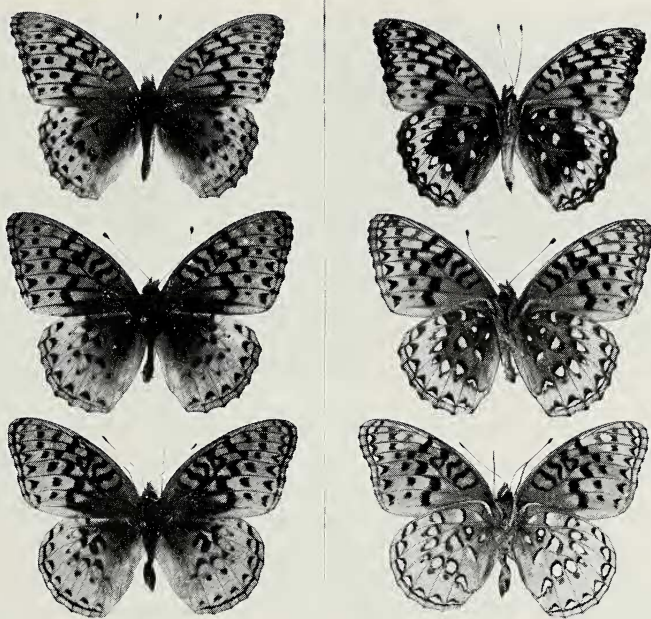
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An apparent male F<sub>1</sub> hybrid (Figs. 3-4) was captured in a wet meadow near Bridgeport, Mono County, California, August 25, 1974. It is intermediate between *Speyeria* (*Speyeria*) *nokomis apacheana* (Skinner) (Figs. 5-6) and *S. (Semnopsyche) cybele leto* (Behr) (Figs. 1-2). Pure populations of both species were caught there August 7, and the hybrid and *nokomis* were caught August 25.

The hybrid male may be characterized phenotypically as follows: dorsally, 1) postmedian HW black spots in cells M<sub>3</sub> and Cu<sub>1</sub> are intermediate in shape (*nokomis* has the spots shaped like ¼ moons, *leto*'s are much thicker), and 2) there is a normal sized spot and a small spot at end of DHW cell (*nokomis* has two normal sized spots, *leto* only one spot). Ventrally, 3) hindwing disk and margin is light brown (the disc and margin are yellow in *apacheana*, dark brown in *leto*), 4) silver spots are intermediate in shape (round in *nokomis*, more crescentic in *leto*), 5) submarginal cones of dark scales on HW and FW are partly brown and partly black (cones are black in *nokomis*, brown in *leto*), 6) FW red flush is intermediate in extent (flush covers most of the wing in *nokomis*, only half of wing in *leto*), and 7) postmedian dots on FW near apex are partly black and partly brown (dots are black often edged with green in *nokomis*, brown in *leto*).

These characters (except 1 and 4) are very different in the two species; they are clearly intermediate in the hybrid, suggesting that it is an F<sub>1</sub>. It is the first hybrid described in the genus, although Paul Hammond (pers. comm.) has a natural female hybrid *S. cybele pugetensis* C. & F. X *S. hydaspe rhodope* (Edw.). Both hybrids are between different subgenera. The subgenus *Semnopsyche* is based on only one character, the female bursa copulatrix (dos Passos & Grey, 1945, 1947). Modern systematic theory emphasizes the use of many characters delineating taxa (Wiley, 1981). *S. cybele leto* and *nokomis* are similar in wing pattern, although they are somewhat different in gene frequencies of some adult body enzymes (Brittnacher *et al.*, 1978). The heterogametic (XY) sex (the female in Lepidoptera) is less often represented in interspecific crosses in Lepidoptera in general. The occurrence of both male and female hybrids, and their occurrence between species previously thought to be in separate subgenera,



Figs. 1-6. *S. cybele leto*, top row (Fig. 1 left, Fig. 2 right);  
*S. cybele leto* X *S. nokomis apacheana*, middle row (Fig. 3 left, Fig. 4 right);  
*S. nokomis apacheana*, bottom row (Fig. 5 left, Fig. 6 right).  
 Left column upperside, right column underside.

suggests that hybridization may be fairly frequent in *Speyeria*, but hidden by the difficulty of identifying many similar species.

### Literature Cited

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